Margay II Quick Start Guide

This guide walks you through the basic setup needed to get your new Planar displays up and running. Detailed information is contained in the Installation Guide, which is in a CD-ROM on the back of this guide.

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PLANAR™

Product and Safety Information

The Margay II is a rear-projection DLP display with a 50" or 70" diagonal screen size. The Margay II has a native HD format, with a 1920 x 1080 resolution. The displays can be configured in arrays up to three units high without additional support, and any number of units wide, which makes them ideal for many command/control room and digital signage applications.

The Margay II 50" is 18" deep, the 70" is 25.4" deep and have an aspect ratio of 1.77 (16:9). They accept a wide range of input pictures from VGA to UXGA in either analog or digital (DVI). With the optional Video Input Module (VIM), the Margay II accepts the following:

- Composite (NTSC, PAL or SECAM)
- S-Video (50Hz or 60 Hz)
- Component (480i, 480p, 576i, 576p, 720p, 1080i)
- SDI (Serial digital interface inputs from 480i to 1080p)

Safety Precautions

The Margay II sometimes contains very high voltages. It produces UV (ultra-violet) radiation, and some parts are very hot. **Your physical health and safety are important**. Take a few minutes to read this section at least once.

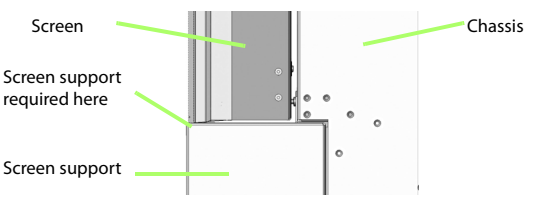
Note: The plug on the power cord serves as the disconnect for this product. No user serviceable parts are inside. All parts replacement is done at the module level by a qualified service technician.

Fully assembled, the 50" Margay II display weighs about 91lbs and the 70" weighs about 116lbs. When assembling a wall, you will need two people.

- The lamps need very high voltages to ignite, around **15,000 volts**.
- The lamps produce lots of light and UV radiation. UV light can damage your retinas. After the light leaves the lamps and passes through the optical engine, there is no more UV.
- There are no electrical interlocks on the display. Opening the screen or removing the rear panel does *not* turn off the high voltage to the lamps.

Bottom Row Screen Support

Each bottom row screen in a video wall requires a support structure the full depth of the screen, which needs to come out to the outer edge of the screen. This is needed whether your cube is on the floor or on an optional base. This can be a screen support supplied by Planar, or a customer-supplied support. Failure to use a bottom row screen support voids your Planar screen warranty.



RoHS Compliance

The Margay II is fully RoHS compliant.

Disposal Information

Lamp(s) inside this product contain mercury. This product may contain other electronic waste that can be hazardous if not disposed of properly. Recycle or dispose in accordance with local, state, or federal Laws. For more information, contact the Electronic Industries Alliance at www.eiae.org. For lamp specific disposal information, check www.lamprecycle.org.

Planning for Your Installation

Tools/Equipment List

Depending on your installation, you may need one or more of the following items:

- #1 Phillips driver
- #2 Phillips driver
- 5.5mm nut driver
- 7mm nut driver
- 10mm nut driver
- 3/16" nut driver
- Small flat blade
- 3mm hex driver
- 5mm hex driver
- 1/2" spanner wrench
- String/string level
- Digital/laser level
- Ladders/lift
- Back brace
- Shims and small mallet
- Steel tape measure; to check the squareness of the wall

Other Things You May Need

- Computer network LAN cables (straight through - no crossover) to interconnect multiple display for RS232 control.
- #50 Glass Cleaner (www.clairemfg.com)
- Service Manual. A service manual is or will be available for download from www.planar.com. (For information about downloading manuals, see the Installation Guide.)
- At least two very strong people to help lift units into place

Plan Your Installation

You should have a detailed plan of how the units are to be configured. The plan should include calculations for the following:

- Floor load. Make sure the floor is strong enough to support the weight of the whole wall. With current equipment, your floor must be able to withstand 400kg/m^2.
- Check the hardness of the floor. Avoid carpet flooring since it will endanger the stability of the wall.
- If you have a wall of three or higher, tie back upper units to a wall or other building structure to prevent tipping
- Power (maximum of eight units per 20A circuit for 115V operation)
- Access to assembled units
- Space allowance behind units for rear service access (recommended but not required)
- Cable runs
- Ventilation and cooling requirements (this is important)

Note: For zero or limited rear clearance installations: to install the top row, you it is recommended having an additional 10" (254mm) or more clearance above the top row to put the top units up and over the previous row.

Prepare Your Installation Location

You should have prepared the area where you will install the units. If custom enclosures are part of the installation, they must be fully designed to accommodate the installation of the units, as well as the installed units and their ventilation and cooling requirements.

If your installation included a lot of construction or dust, it is highly recommended that you clean all of the screens and replace the air filters after the wall installation and configuration is complete.

Unpacking the Margay II

The Margay IIs are shipped on pallets by themselves, and screens are grouped together on one or more separate pallets.

Leave the screens in their cartons until they are needed.

Checking Accessories

Accessories With Each Display

- Power cord (for use in North America)
- VGA cable (15-pin cable for analog computer pictures)
- Plastic spacers used for front-access installations
- M5 x 8mm flathead Phillips screws (for screen brackets, etc.)
- DVI-D cable
- Various screws

Make sure you have the following customer-supplied items as needed to complete your installation:

- RJ45 to 9-pin adapter, if you will use RS232 commands to control the display
- RJ45 cable, computer network type
- Component video cables
- S-video cables
- Long-run DVI-D cables
- Shims to level the bottom of displays
- Screen supports - if you have not purchased them from Planar

Accessories With Each Order of Displays

The number of screen brackets included in an order of Margay IIs depends on the size and configuration of the proposed video wall. The number of brackets required for your planned wall are all packed in a separate accessory kit.

- Brackets - Available brackets are Center Screen Bracket, Front or Corner Screen Bracket, Front or Side Top-Bottom Screen Bracket
- Remote - Two remotes are shipped with each order of displays. The batteries are already installed.
- Quick Start Guide - This guide and the Installation Guide CD on the back of this guide.
- Suction Cup - Used for front-access installations to open the screen after the wall is built.
- Gloves - Two pairs of gloves are shipped with each order. They are used to handle units.

Optional Accessories

Optional accessories ship separately and are installed on site.

Video Input Module (VIM)

Contains inputs for component, composite, S-Video and SDI sources.

Option Key

Includes Planar's Big Picture feature, which lets you spread one picture over the whole wall, or over part of it.

WallNet

A system of hardware and software that displays information about a wall of displays on a network browser. It is primarily used for monitoring, reporting and some control (for example, powering displays on and off). WallNet is required for Auto Color Balance.

Screen Support

The screen support is to be installed on the bottom row of each cube or base, unless an optional customer-supplied support is used. See the Installation Guide CD for detailed information.

Chassis Feet (50" Displays Only)

For 50" displays, if you will not use bases on the bottom row, the optional chassis feet (two per chassis) can be used to help level the bottom row chassis.

Chassis Base

The optional base can be placed under bottom row chassis for extra height or support.

Installing the Option Key

The Option Key for Planar's Big Picture™ and/or for ACB is shipped separately and installed on site. The Option Key can be installed without removing the control board.

1 Attach a ground strap to your wrist and the chassis.

WARNING! Failure to properly use a grounding strap can destroy sensitive electronic components in the control board.

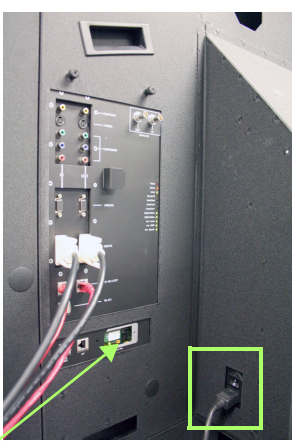
2 Turn off the power on the Margay II and remove the power cord.

WARNING! Always turn off power and remove the power cord when adding or removing an electronic part.

3 Using a #1 Phillips screwdriver, remove the one screw and small plate on the bottom of the control board.

50" Display

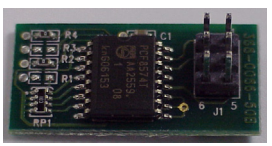
70" Display

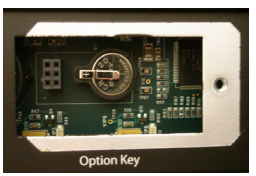


Remove plate and screw

4 Remove the Option Key from its shipping pouch and anti-static bag. Be sure you are grounded.

5 The Option Key has six pins. Plug the key into the socket on the control board. Be sure all six (6) pins go in correctly and the key is positioned over the white rectangle on the board. If the key is plugged in correctly, it will cover this rectangle and most of the battery on the right side.





Key installed **correctly**. Notice it mostly covers the battery and white rectangle.

Key installed **incorrectly**. Notice it does not fully cover the battery and the white rectangle.

6 The Option Key is now installed.

7 Using the screw you set aside earlier, reinstall the Option Key cover plate.

8 Replace the power cord.

Installing the Video Input Module (VIM)

Removing the Control Board

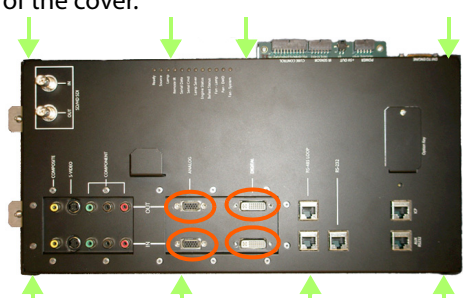
1 Attach a ground strap to your wrist and the chassis.

WARNING! Failure to properly use a grounding strap can destroy sensitive electronic components in the control board.

2 Turn off the power and remove the power cord.
3 Do one of the following:
- For front-access, remove the screen and loosen the screws that hold the control board in place.
- For rear-access, hold the tab on the control board and loosen the screws that hold the board in place.

4 Lift the control board off of the slots on the bottom of the chassis. It will still be connected to cables at the bottom.
5 Do one of the following:
- For front-access, bring the control board slightly forward and turn it around. Disconnect all cables.
- For rear-access, bring the control board partly out of the opening and disconnect all the cables.

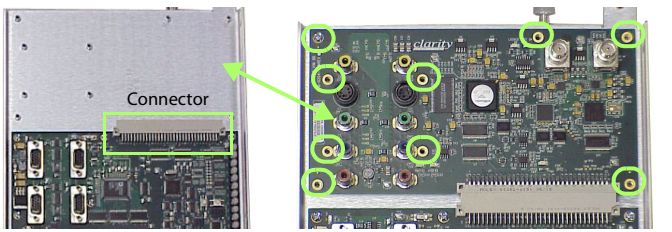
6 Remove the IR Sensor and Cube Control connectors.
7 Using a #1 Phillips screwdriver, remove 8 screws from the sides of the cover.



8 Using a 3/16" nut driver, remove 8 connector jack screws.
9 Remove the cover of the control board. It is a snug fit.

Installing the VIM

1 Slide the VIM in its space and press it into its connector on the control board.



2 Using a PH1 screwdriver, install the nine screws to secure the board.
3 Replace the control board cover. Check first to see that all the LEDs are straight and none are bent over. Carefully lay the cover all the way down over the control board, watching the LEDs to see that they are visible through their holes.
4 Press the cover onto the control board; it is a snug fit.
5 Attach the cover with the eight screws at the sides.
6 Replace the 8 jack screws with the 3/16" stand-off nuts.
7 Using a 1/2" spanner wrench, install the two SDI nuts and washers that were shipped with the VIM in the top right corner of the control board.
8 Reconnect any cables/connectors you may have removed.
9 Replace the control board in the display.
10 It is now safe to replace the power cord and turn on the power.

Wall Installation - Planning

Planning

Even though the displays can be installed right up against a wall, you may want to allow 24-30" of space behind the displays for rear service access. Some of the service procedures are easier to perform from the rear.

If the displays are enclosed, you must provide a space for exhaust air from the displays to get away. If the space behind the displays has no air circulation, the displays will get too hot. If the air does not circulate well enough naturally, consider adding a fan behind the stack, or planning for A/C venting. The installer is responsible for ensuring that the ambient temperature is always within specifications.

Note: A wall of Margay II displays can be tilted. However, any tilted application needs to be reviewed by the factory prior to installation.

General Tips for Wall Installation

Before you start building your wall, keep the following in mind:

- The Option Key and Video Input Module can be installed at any time. However, if you are building a tall array, it is easiest to install them while the cubes are on the ground.
- For each row, build from the center unit outwards.
- After each row is built, check it for level, plumb and square.
- Each bottom row screen in a video wall requires a support structure the full depth of the screen, which needs to come out to the outer edge of the screen. This is needed whether your cube is on the floor or on an optional base. This can be a screen support supplied by Planar, or a customer-supplied screen support. Whatever screen support is used will provide long-term prevention of screens from sagging over time. Failure to use a bottom row screen support voids your Planar screen warranty.
- For optimal product performance, maintain components within temperature specifications. Occasional temperatures out of specification are acceptable for a short period of time.

Checking the Wall for Level, Plumb and Square

For units in the same row, check that the fronts are in a straight line with string. We suggest you pull the string very tight and adjust the units as needed.

Note: You may have to repeat this process as you push or lift the units to adjust the shims/base leveling feet under parts of the wall to correct for uneven floors. Simply sighting down the row is not good enough.

Use a level to ensure that the units are plumb (true vertically for both the sides and the front) and aligned from unit to unit. The slightest deviations from plumb and aligned must be corrected by adjusting the bottom shims/leveling feet.

Before Installation

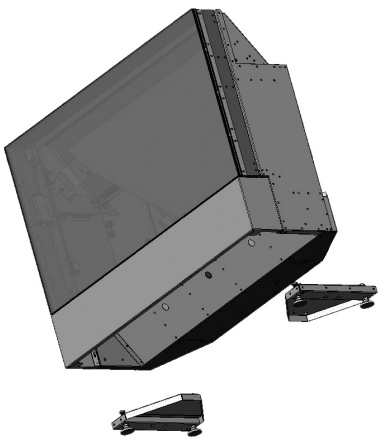
Below are important points to keep in mind before you install the first or bottom row.

- Start with a flat floor.
- It is recommended if the unit is raised above the floor, that an adjustable base for each unit is used. However, in certain applications this may not be feasible. In these cases, it is recommended that adjustable feet are used for the 50" displays. If this is also not feasible, every care must be made to ensure that the customer-supplied structures are level, plumb and square. This reduces the amount of unit shimming required for proper installation.
- Shims, if required, shall be located where shown (see Installation Guide) and shall be able to handle the weight requirements given the total number of units stacked. Engineering shims are highly recommended.

Wall Installation - First Row

Note: Detailed instructions for wall, tower or banner installation can be found on the Installation Guide CD.

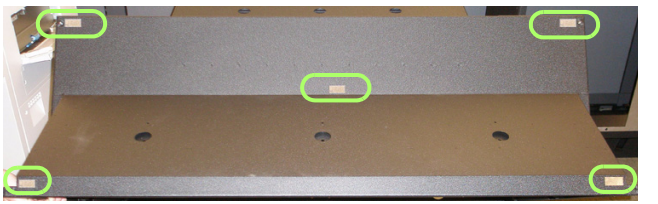
1 Start by finding the highest part of the installation area. All cubes/bases/cube feet will need to be shimmed/adjusted to be level with the cube/base/cube feet positioned here.
2 If you ordered bases, unpack and assemble them now.
3 For each unit, install the Video Input Module and Option Key, if ordered. If you are building a tall array, it is easier to install them while they are on the ground.
4 If you have a 50" display and ordered chassis feet, unpack them now and secure them to each chassis in the bottom row. Adjust the feet to make the bottom row level.



Note: This example shows a 50" display with chassis feet. A 70" display does not have these.

5 If you ordered a screen support, install one on each cube in the bottom row. If you are supplying your own screen support, install it when screens have been aligned for the entire wall. See the Installation Guide CD for detailed information.
6 For front-access systems only, affix plastic spacers on the top of the chassis of the lower units before stacking. These give just enough space to allow units to be removed without scratching or damaging surrounding units.

As seen from top of unit



7 If you ordered bases, place the chassis on them now. Adjust the leveling feet on the bottom of the bases.
8 Install screen brackets. Appropriate screen brackets should be installed on the front and rear of the units as each row is installed.
9 Mount the WallNet box on the inside of one chassis.
10 If the wall is too close to the units for a person to get to the rear of the units, it is suggested that external cables be installed and routed as the video wall is built.
11 Check for level, plumb and square. Adjust the bottom feet or shims as needed.

Note: It is important to get the first row right. Any mistake made here will multiply as the wall goes up.

Wall Installation - Next Rows, Completion

Installing Second and Subsequent Rows

1. Unpack only the displays that will be in this row. (page 2)
2. Make sure all VIMs and Option keys are installed on each display.
3. For front-access systems, put plastic spacers on the top of the units, before stacking more units.
4. Using two people, lift an upper chassis above the lower chassis. Repeat this step for each unit in the row.
5. For each row, check for level, plumb and square. Adjust shims/leveling feet as needed.
6. Install brackets where each lower and upper chassis meet.
7. Install and route cables as needed.
8. Repeat steps 1 through 7 for subsequent rows in this wall.

Completing the Wall Installation

1. If you have a wall of three or higher, install tie backs. Each display has M8 threads in the back for this purpose. At every third unit high, use with Side-Top-Bottom or Corner brackets.
2. If you have not already done so, install power and source cables.
3. If the wall will be high or large, it may be difficult to configure the displays using the remote control because of the distance. Many installers prefer to use RS232 commands to adjust the units in a wall.
4. When the wall is complete — level, plumb and square, all screen and rear brackets installed—install screens starting with the center of the bottom row, moving outwards in the row, and then install screens on the next row up.

Unpacking Screens

Installing screens is a two-person job. Don't try to install them by yourself.

Important Screen Care

Before you unpack screens, keep the following in mind:

- Each screen is delivered in a cardboard box. Then each screen is contained in a sealed bag. This bag prevents the screen from being exposed to adverse humidity conditions that could modify the screen dimensions and therefore damage it.
- Recommended maximum storage in a sealed bag is two months.
- Before opening the screen bags, allow screens to sit in the environment where they will be installed for at least 24 hours. Then open the screen bag and leave the screen in the bag for another 24 hours.

Caution: Do not open the sealed bag in a place where the humidity level is not compatible with Planar specifications. It is best to open the bag in the environment where the screens will be installed or in a similar environment. See the General Conditions of Sale for details.

- For optimal screen performance, especially to avoid a bowing effect, environmental conditions must be strictly observed. The temperature range should be from 20° C to 24° C, with the humidity range from 40% to 60% R.H.
- If the screen is dusty, use a glass cleaner (www.clairemfg.com). Spray the cleaner on a clean, non-fluffy soft rag until it is slightly wet. Gently wipe the screen.
- Small scratches, specks, etc. visible at a distance up to 2.5 meters are acceptable.
- Screen bowing can occur in the wall for at least 30 days (under normal operating conditions). After 30 days, you can expect the wall to stabilize and the screens to flatten out.

Unpacking a Screen

1 Using two people, remove the screen from the packing case. Grab near the corners as you lift the screen from the packing case.

Note: We suggest you save the screen packaging until the entire array is installed.

2 Cut open the protective envelope. Be careful not to scratch the screen or the frame. Leave the screen in the bag for another 24 hours.

Caution: The Margay II 50" screen weighs about 25lbs (11kg) and the 70" screen weighs about 55lbs (25kg). Also, the screen is delicate and expensive. Take care when handling it.

3 There are two slots in the back edge of the screen. The screen guide arms go into slots.

Note: There is a label on the bottom of the screen.

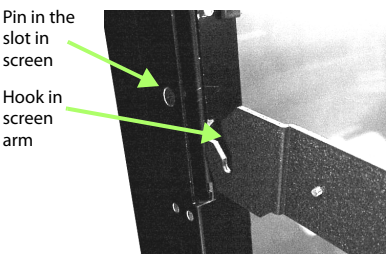
4 For a rear service only wall, the plastic hooks on the screen should be removed. Also, loosely install the M6 hardware in the screen for insertion into the chassis keyholes.

Installing Screens

1 For front service, prepare the center unit in the bottom row to receive a screen by pulling the support rails all the way out.

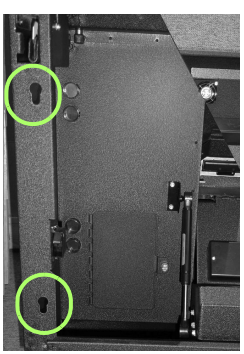
2 Do one of the following:

- For front service, hang the screen on the hooks. Using two people, lift the screen at the sides. Hang the screen on the screen guide hooks. It is easier to do this one side at a time, one person holding still, and the other person hanging the screen on the hook.



- For rear service, place the heads of the screws in the large holes of the keyholes and let them slide down.

Front view



Side view

3 Do one of the following:

- For front service, push the screen all the way in. Go to step 4.
- For rear service, use two people to install the screen. One person should be at the front to hold the screen at proper alignment and one at the rear to tighten the screws that will hold the screen in place. You are now done installing screens and can skip to the next section of this guide.

4 Starting with the bottom corner, press the heel of your hand against each corner of the screen until the spring-loaded latches click into place.

Note: You may have to lift the screen a little to get guide pins on the screen brackets to fit into the holes in the back of the screen.

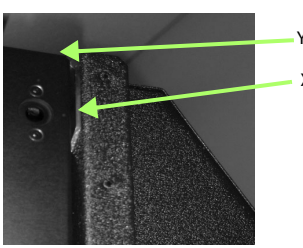
Caution: Don't hit the screen hard; it can break.

5 Continue installing screens from the center out until you have installed screens on an entire row.

6 Move to the next row up, and install a screen on the center unit.

7 Repeat steps 1-6 until all screens have been installed.

Fine Adjustment



You can make x-axis (left or right) and y-axis (up or down) adjustments at the top corners on both sides of the screen. These can be adjusted without opening the screen. The z-axis adjustment (with the screen open) moves the screen away from/closer to the chassis. Locations for the x-axis are slightly different for the 50" and 70" displays. Z-axis adjustment is different as well. See the Installation Guide CD for more information.

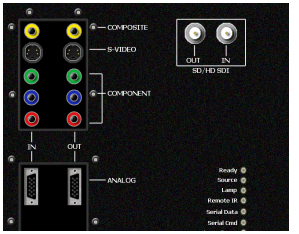
Connecting Source Cables

All cabling for the Margay II must be run through the rear of the display. You can run cables as the rows go up or when the installation is complete.

Connecting Sources

The three types of inputs are:

- Analog computer (from UXGA down to VGA)
- Digital computer (Digital Video Interface, or DVI, digitally connects computers to their monitors or interconnects to Planar displays)
- Video (optional with VIM)
  - Composite (NTSC, PAL or SECAM)
  - S-Video (NTSC and PAL - 50Hz or 60 Hz)
  - Component (480i, 480p, 576i, 576p, 720p, 1080i)
  - SDI (Serial Digital Interface inputs from 480i to 1080p)



Each of these inputs have a separate loop-through output.

Loop-Through

For all the loop-throughs except digital, what goes in is what comes out. Switching which connector is used for the displayed picture *does not* change what comes from their output connectors. Whatever goes in Analog In comes out Analog Out; it is not changed in any way, but it is buffered.

Digital Out is different. For the Digital Out connector, switching inputs *does* change what comes out of it. The selected picture from either Analog In or Digital In *always* comes out the Digital Out connector in digital form.

Note: The Digital Out signal does not strictly conform to the DVI standard. Non-Planar units will not be able to display this signal.

The advantages of DVI are:

- DVI is less subject to picture degradation than analog methods of loop-through. (Even with DVI, loop-through is not infinite.)
- DVI inputs require much less setup and adjustment. You adjust the picture in the first unit only, the unit with the analog input.

Selecting the Correct Input

The table below gives you common examples of which devices have which inputs. In terms of input quality, the table is ordered from the most desirable input to the least desirable input.

Input	Found on the Following Devices
DVI	Computers with digital out capability
SDI	Studio quality video equipment
Analog	Computers, laptops RGB and RGBS from video processors or other professional equipment (may need BNC to DB15 adapter cable). These may have separate sync, composite or sync on green.
Component	DVD players Set top boxes (e.g. for cable TV or satellite TV) Any YPbPr signal
S-Video	DVD players Set top boxes VCRs
Composite	TV tuners VCRs Set top boxes

Note: HDCP (High-Definition Copy Protection) is supported.

Connecting Power, Turning It On/Off

Each display may draw up to 1.72A at 115V or 0.86A at 230V. For countries outside of North America, it is the responsibility of the installer to provide the power supply cord certified for use in the destination country.

The power switch and power receptacle are located at the left rear of the display.

Connect a power cable to the power supply. The power supply is auto-ranging, so it works with any source from 100 to 240 VAC, 50 to 60 Hz.

50" Display

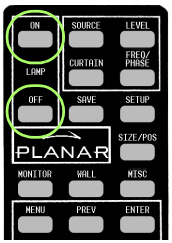
70" Display

About UPS Supplies

Some installations use a UPS - Uninterruptible Power Supply. Most UPS devices will work with the Margay II. Review the power specifications of your UPS device to make sure it is compatible with the Margay II.

Turning Power On/Off

1. With the power cord attached, turn on the power switch located on the back of the unit.
2. Wait a few seconds and make sure that the green LED Ready light on the back of the control board is on.
3. Turn on the Margay II by aiming the remote at the screen and pressing the ON button.



Note: It is normal to leave the power connected and the power switch on all the time and turn the lamps on and off as desired.

4. To turn off the Margay II, press the OFF button.

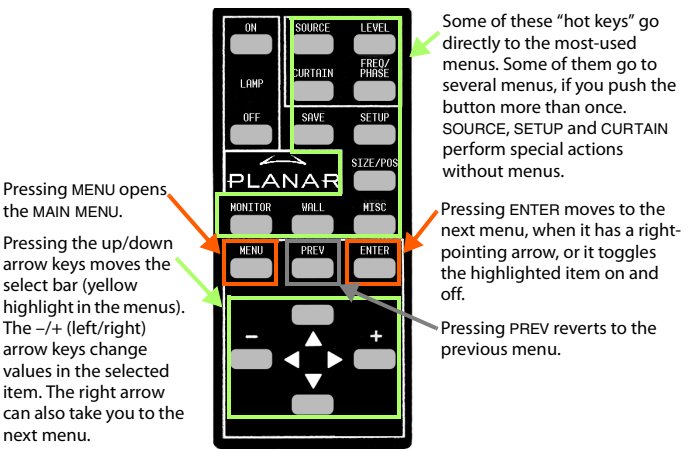
Note: You cannot turn off the lamps and then immediately turn them on again. The lamps will not light until the mandatory cool-down period of a minute has elapsed.

Using the Remote and Menus

Using the Remote Control

The remote control works much like a remote control for a TV or DVD player, but it does more. Among other things, it opens menus, changes values and moves the image.

The remote control operates with IR (infrared) signals going to the IR receiver (located behind the lower right corner of the screen for landscape and in the lower left corner for portrait).

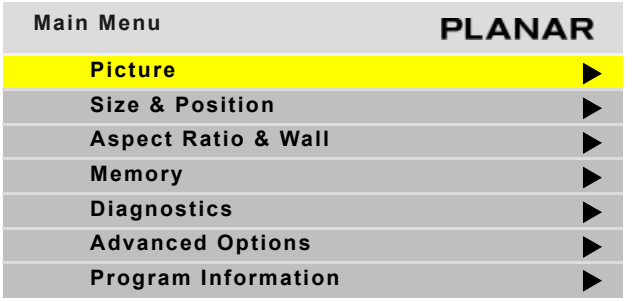

ON
SOURCE
LEVEL
LAMP
CURTAIN
FREQ/ PHASE
OFF
SAVE
SETUP
SIZE/POS
PLANAR
MONITOR
WALL
MISC
MENU
PREV
ENTER
–
+
Some of these "hot keys" go directly to the most-used menus. Some of them go to several menus, if you push the button more than once. SOURCE, SETUP and CURTAIN perform special actions without menus.
Pressing MENU opens the MAIN MENU.
Pressing ENTER moves to the next menu, when it has a right-pointing arrow, or it toggles the highlighted item on and off.
Pressing the up/down arrow keys moves the select bar (yellow highlight in the menus). The –/+ (left/right) arrow keys change values in the selected item. The right arrow can also take you to the next menu.
Pressing PREV reverts to the previous menu.

To open menus on the Margay II, aim the remote at the lower right corner (left if portrait) of the screen and press the desired button(s).

Using the Menus

The Margay II's menus and functions are arranged in groups and can be accessed through grouped functions or by using direct access keys. The starting point for accessing menus is the MENU button on the remote.

1 Press MENU on the remote to display the MAIN MENU.



2 Use the up/down arrow keys to move through menu options. See explanations next to the remote control picture on this page for additional navigation information.

Some of the setups described in this Quick Start Guide will explain how to navigate through specific menus. Most of the menus are explained in detail on the Installation Guide CD.

Selecting a Source

In this guide, a source is any type of picture. It might be an analog computer image, a video processor, a VCR or DVD, or it might be a DVI picture from a computer.

Selecting the Source Automatically

1 Press SOURCE on the remote. The Margay II goes to the next connector that has a valid picture on it and displays that picture.
2 If you want to select a different source, press SOURCE again to select the next connector (that has a valid picture on it) and display the picture.

Note: If a connector does not have a valid source, the Margay II briefly displays that it has scanned that connector and then proceeds to the next connector.

Selecting the Source Manually

1 Press FREQ/PHASE on the remote. The Margay II displays the PICTURE menu for the current source.
2 Using the up/down arrows, select the SOURCE line and press ENTER.

Note: The SOURCE submenu displays to the right of the PICTURE menu.

3 In the SOURCE submenu, use the up/down arrow keys to select the desired source.
4 When the desired source is selected, press ENTER. The PICTURE menu changes to display the settings for that source.

When Source is Familiar to Margay II

When a "new" source is selected, the Margay II looks through a list of the last 10 picture types it used. If the "new" source is like a previous one in this list (resolution, number of active lines, etc.), the Margay II uses the stored data and does not do anything in the AUTO SETUP OPTIONS menu. This saves time, and the picture is displayed faster without going through adjustments, which are visible on the screen.

Best Way to Change a Source

The best way to select a source is to recall a configuration your installer has created for you. See the Installation Guide CD for more detailed information.

1 On the remote, press SAVE. The RECALL menu displays.
2 Using the arrow keys, scroll to one of the numbered configurations your installer has created for you.
3 Press ENTER to show the RECALL SLOT menu.
4 With the RECALL NOW line selected, press ENTER. If the top of the menu displays "Current," the source is identical to the settings stored in the memory slot.

Adjusting Levels for Analog Sources

This page applies to analog RGB (computer) pictures only. Levels are best adjusted semi-automatically. For analog RGB pictures, levels for black and white vary from one computer to another, or from one video processor to another. They even vary between video outputs from a multiple-output video card in a computer.

Your pictures will not look their best on the Margay II until you adjust for these differences. This is *not* about adjusting color or contrast. It's about telling the Margay II what the computer or processor means by black and by white.

Note: Thermal effects of the projection lens can shift 1-2 pixels. Wait at least 15-30 minutes before completing a final color balance or alignment. If the units are turned off and are cold, they could be misaligned until they have warmed up.

Semi-Automatic Level Adjustment

1. Select a source in the PICTURE menu. Display an all-white picture from the source computer. *This must come from the computer source that will be used for the program.*

Note: We suggest displaying a white screen using Windows® Paint.

2. To open the INPUT LEVELS menu, press LEVEL.
3. Select AUTO WHITE LEVEL and press ENTER. This menu line says "Working…" until the process is complete.

Note: When doing Auto White with an interlaced analog input, the color of the picture will change while it is working, and then will change back to normal.

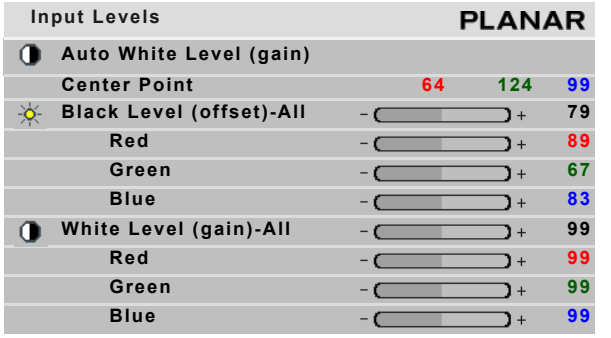
4. Display an all-white picture from the source computer.
5. In the INPUT LEVELS menu, select AUTO WHITE LEVEL and press ENTER. Wait for "Working…" to disappear.
6. The Margay II is now adjusted to the white levels of this computer using this video card.

Note: Because the Margay II continually adjusts the black level for optimum display, there is no need to adjust it.

7. Save the configuration to a memory slot.

Manual Level Adjustment

1. Select a source in the PICTURE menu. Display an all-black picture from the source computer.
2. In the INPUT LEVELS menu, Press LEVEL on the remote.
3. Select BLACK LEVEL and adjust it up/down with the -/+ keys to make the three center point values go to zero. Once any value reaches zero, use the individual colors under BLACK LEVEL to adjust the other two values to zero.


Input Levels
PLANAR
Auto White Level (gain)
Center Point 64 124 99
Black Level (offset)-All - + 79
Red - + 89
Green - + 67
Blue - + 83
White Level (gain)-All - + 99
Red - + 99
Green - + 99
Blue - + 99

4. Display an all-white picture from the source computer.
5. Adjust WHITE LEVEL until the image maximums just go to 255. Once any value reaches 255, use the individual colors under white level to adjust the other two values to 255.
6. Save the configuration to a memory slot.

Adjusting Input Levels and Position

Adjusting Levels for Video Sources

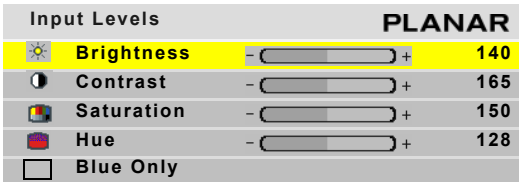
Video sources are adjusted best if a color bar test pattern is available from the video source: the DVD or VCR player. If not, you will have to adjust by eye and the "feel" of the picture.

Note: When a video source is selected, Auto Setup Options are not available. Adjustments must be made manually.

Note: Thermal effects of the projection lens can shift 1-2 pixels. Wait at least 15-30 minutes before completing a final color balance or alignment. If the units are turned off and are cold, they could be misaligned until they have warmed up.

Adjusting the Picture

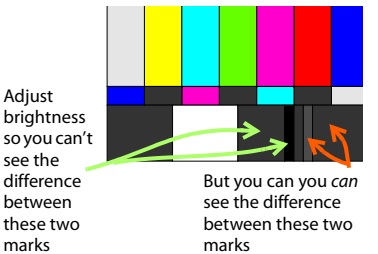
1. Select a video source in the PICTURE menu.
2. Press LEVEL on the remote to open INPUT LEVELS.



3. Adjust a picture from the video source or using a standard SMPTE color bar pattern from the source.

Adjusting With Color Bars

1. If possible, use a SMPTE color bar pattern from the video source you will use for the program material.
2. In the INPUT LEVELS menu, check BLUE ONLY. You should see the alternate color bars, all of them blue.
3. Adjust SATURATION to make the outer two color bars match in brightness; they will already match in color.
4. Adjust HUE to make the inner two color bars match.
5. Uncheck BLUE ONLY.
6. If the color bar pattern has a pluge (Picture Line-Up Generation Equipment), you can use it to adjust brightness and to calibrate the black level on a video monitor.


Adjust brightness so you can't see the difference between these two marks
But you can you *can* see the difference between these two marks

7. It is recommended that you save the configuration to a memory slot. See the Installation Guide CD.

Adjusting Position

Position moves the picture on the screen but does not move the menus. Press SIZE/POS on the remote once to open the PICTURE POSITION menu. Four arrow keys move the picture on screen.

The numbers for Horizontal and Vertical Position refer to the number of pixels from sync to the first displayed pixel. These numbers get smaller as the picture moves up and to the left.

The Horizontal Position number shows the number of pixels from the beginning of H sync to the first active pixel. Because there are many black pixels after H sync, this number will not be zero when the picture is at the left border of the screen.

The Vertical Position number is the number of lines from V sync to the first active line, so it will not be zero when the picture is at the top of the screen.

Color Balancing for Multiple Displays

Color balancing makes the individual displays in an array show the same colors. Colors vary slightly from one display to the next, because of slight variations in the lamps and DLP engines. Color balancing can compensate for this. When your wall is first installed, the installer will run an ACB and then perform manual color balance adjustments.

Note: Thermal effects of the projection lens can shift 1-2 pixels. Wait at least 15-30 minutes before completing a final color balance or alignment. If the units are turned off and are cold, they could be misaligned until they have warmed up.

Note: You can manually color balance after an ACB to fine-tune settings. These will be kept even after another ACB is performed.

Auto Color Balancing (ACB)

ACB automatically determines the display's brightness of the maximum range of colors (also called "color gamut") that can be created on all the displays in the array. Then ACB matches the light output on all the displays and adjusts the color outputs. You must have the optional WallNet device and optional Option Key with ACB. For more information about ACB and WallNet installation, see the WallNet manual.

Manual Color Balancing

To color balance, you only have to match whites and grays. When you make all the displays look the same with white and gray, all the other colors will look the same.

Caution: Do not match the colors of the displays with the Black and White Level controls or with the video controls.

Caution: If you are color blind, even a little bit, do not manually color balance your array. Have someone else color balance the wall.

1. Turn on all the displays in the array and let them warm up for at least five minutes. The lamps must be thoroughly warm before you color balance.
2. On each display, open the COLOR BALANCE menu.
3. If the array has never been color balanced, make sure you start with the NATIVE color temperature option on each display. If you don't need a specific color temperature, use NATIVE, which is the brightest.
4. On each display, highlight TEST PATTERN and use the left/right arrow keys until the menu displays WHITE.

Note: Always use the internal Test Patterns for color balancing.

5. When all displays are white, find the *least bright* display in the wall, which will be the "baseline" display and will *not* be adjusted. Other displays will be adjusted to this display.
6. Choose a display next to the baseline display and adjust its white values (red, green and blue) to make it match the baseline display. Concentrate on the center of the displays, not the adjacent edges.
7. Continue with other adjacent displays until all them have the same appearance when white. Be careful not to change the values once you are satisfied with them.
8. When all displays look the same when showing the White test pattern, select the Gray test pattern in all displays.
9. Choose any display as the new baseline display. It does not need to be the baseline display you used for white.
10. Adjust gray for all the displays until they match the baseline display. Do one display at a time. Again, match the center part of the picture, not the edges.
11. When all displays match in gray, close all the menus. The test pattern automatically turns off.

Troubleshooting

Use the following troubleshooting tables to diagnose and resolve common problems.

If your screen shows black or a test pattern

	Do This	Result	Explanation/Further Action
1	On the remote, press MONITOR.	No menu appears, but I see flashing lights	The lamps may not be lit. On the remote, press ON. If the screen is still black, see this page for help interpreting the meaning of the flashing lights.
		A menu appears	Did the "Curtain or Test Pattern is displayed" message (in red) appear on the menu? If it does not appear, go to 3. If the message does appear, go to 2.
2	On the remote, press CURTAIN once. If the message does not disappear, press CURTAIN again.	The message has not disappeared	Check the remote control.
		The message has disappeared	If the correct source does not appear, go to 3.
3	On the remote, press MENU until the MAIN MENU appears.	The "source absent" pane is visible	Make sure the correct source is selected by pressing SOURCE. If necessary, change to a different source. Make sure the source is on. Make sure the cable between the source and display is correctly connected at both ends. Make sure the green LEDs on the control board are lit. If the screen is still a solid color, contact Planar's Technical Support Department.
		The source absent pane is not visible	The source is displaying a solid color or a test pattern.
4	Ensure the power cable is connected and the switch is ON.		Reconnect cable or turn on unit. If none of the previous steps have resolved the problem, contact Planar's Technical Support Department.

Margay II doesn't respond to remote control

Possible Cause	Possible Resolution
Power is not on.	Confirm that the power cable is connected and the power switch is on.
Remote batteries are dead or improperly installed.	Replace or reinstall batteries.
Your installer or service provider has disabled the remote control.	Contact your installer or service provider.

Common On-Screen Codes

Condition	Priority	Each block represents 0.2 seconds
Fan failed[1]	1	R, Amber
Optical engine failed	2	R, R, Amber, R
Lamp failed	3	R, R
Wait On	4	R, R, Amber, Amber
Wait (lockout)	5	R, R, R, R
Non-critical fan failure[2]	6	Amber, R, R
Lamp off (auto off)	7	Amber, Amber, R
Lamp off (ready)	8	Amber, Amber
Lamp striking (starting)	9	Amber, Amber, Amber
Lamp on and all OK	10	Amber on continuously

R = Red To show the code press MONITOR once on the remote.
1 Lamp or DMD fan
2 Ballast, system or power supply fan.

Changing a Lamp

1 Using the remote, turn off the lamp and allow the cooling fans to stop (about one minute) before proceeding.

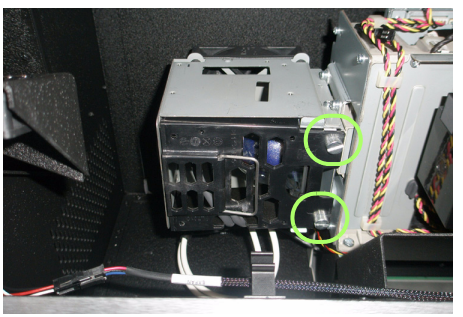
WARNING! Never remove a lamp that is still lit.

Caution: Be careful when handling lamps. Use UV protective eye wear. Also, be aware that lamps are very hot and can stay hot for some time after they are turned off.

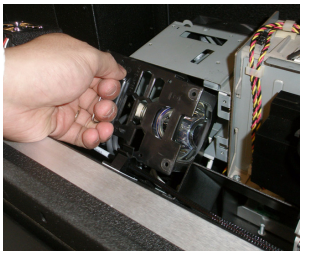
2 Do one of the following:
- For front-access units, open the screen.
- For rear-access units, remove the rear panel.

Note: Although you can access the lamp from the rear, it will be difficult to remove and replace. It is suggested that you replace the lamp from the front.

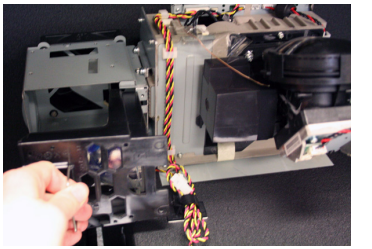
3 Turn off the power switch and remove the power cord. (For front-access units, remove the control board and then reach through to the front to remove turn off the power and remove the power cord.)
4 Lift the light shield.
5 Using a flathead screwdriver, loosen the two captive thumb screws on the front of the lamp.



6 Lift the wire handle and pull the lamp out. There is less space in the 50" chassis so it might be a little more difficult to pull out the lamp.



50" Chassis



70" Chassis

7 Remove the new lamp from its packaging.
8 Slide the new lamp into the lamp housing.
9 Once the lamp is lined up in the housing, slide it to the right and push the lamp all the way in.

Note: If the lamp is not pushed all the way in, the light path will not be correct. This may cause a poor picture.

10 Tighten the screws finger tight.
11 Close the light shield.
12 Do one of the following:
- For front-access units, close the screen.
- For rear-access units, replace the rear panel.

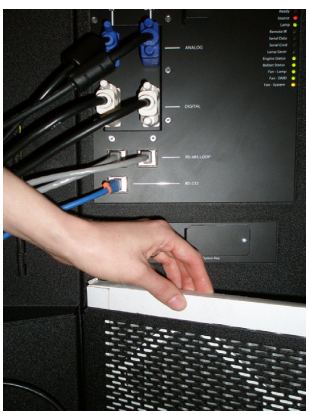
13 Reinstall the power cord and turn the unit on. (For front-access units, reinstall the control board).
14 Reset the lamp hours (MAIN MENU > DIAGNOSTICS > HOURS).
15 Color balance the wall (page 17).

Changing an Air Filter for 50" Displays

Changing an Air Filter (Rear Access)

The air filter is in the back of the unit below the power cord.

1. Using the remote, turn off the lamp and allow the cooling fans to stop (about one minute) before proceeding.
2. Power down the unit and remove the power cord.
3. If necessary, lift up the cables so they are not in the way of the air filter.
4. Pull straight up on the air filter to remove it.



5. Insert the new air filter. Arrows on the air filter should indicate air flow direction, which is into the unit.
6. Plug in the power cord and turn on the power.

Changing an Air Filter (Front Access)

The air filter is in the rear of the unit below the power cord.

1. Using the remote, turn off the lamp and allow the cooling fans to stop (about one minute) before proceeding.
2. Remove the front screen.
3. Loosen the captive screws at the top of the control board.
4. Lift up and remove the control board from the slots on the bottom of the chassis.
5. Reach through to the front of the unit to power down the unit and remove the power cord.
6. If necessary, lift up the cables so they are not in the way of the air filter.
7. Reach through to the front of the unit and pull straight up on the air filter to remove it. From the front, it might be hard to see.
8. Insert the new air filter. Arrows on the air filter should indicate air flow direction, which is into the unit.
9. Plug in the power cord and turn on the power.
10. Carefully place the tabs on the bottom of the control board into the slots inside the chassis.
11. Push the control board towards the outside of the chassis and tighten the screws that secure the control board to the chassis.
12. Reinstall the front screen.

Changing an Air Filter for 70″ Displays

Changing an Air Filter (Rear Access)

The air filter is inside the unit, on the side opposite the control board.

Note: Because you cannot see the air filter from the rear, this picture is shown from the front.

1. Using the remote, turn off the lamp and allow the cooling fans to stop (about one minute) before proceeding.
2. Power down the unit and remove the power cord.
3. Remove the rear panel and life the light shield.
4. Feel around the back right side of the chassis until you find the air filter.
5. Pull straight up on the air filter to remove it. The air filter is a tight fit and is difficult to see from the rear.
6. Insert the new air filter. Arrows on the air filter should indicate air flow direction, which is into the unit.
7. As you push the air filter down, push the top of it toward the front of the unit. This will make the bottom of it fits correctly.
8. Pull the light shield down and replace the rear panel.
9. Plug in the power cord and turn on the power.

Changing an Air Filter (Front Access)

The air filter is inside the unit, on the side opposite the control board.

1. Using the remote, turn off the lamp and allow the cooling fans to stop (about one minute) before proceeding.
2. Power down the unit and remove the power cord.
3. Remove the front screen.
4. Pull straight up on the air filter to remove it.
5. Insert the new air filter. Arrows on the air filter should indicate air flow direction, which is into the unit.
6. Reinstall the front screen.
7. Plug in the power cord and turn on the power.

Declaration of Conformity

Manufacturer's Name: Planar Systems, Inc.
Manufacturer's Address: 1195 NW Compton Drive
Beaverton, OR 97006
Declares that the products with Model Numbers: Margay II 50" and 70" DLP projection displays
Conform with the provisions of:

Council Directive 2004/108/EC on Electromagnetic Compatibility;

EN55022:2006+A7 Radiated and Conducted Emissions from IT Equipment

EN55024:1998 Immunity of IT Equipment

Including:	EN61000-4-2	Electrostatic Discharge
	EN61000-4-3	Radiated Immunity
	EN61000-4-4	Electrical Fast Transients
	EN61000-4-5	Line Surge
	EN61000-4-6	RF Conducted Susceptibility
	EN61000-4-8	Magnetic Field Immunity
	EN61000-4-11	Voltage Dips and Interrupts
And:	EN61000-3-2	Harmonic Current Emissions
	EN61000-3-3	Voltage fluctuations and Flicker

Council Directive 2006/95/EC on Low Voltage Equipment Safety:

EN60950:2006+A11 Safety of IT Equipment

The Technical Construction File required by this Directive is maintained at the corporate headquarters of Planar Systems, Inc., 1195 NW Compton Drive, Beaverton, OR 97006.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Industry Canada (ICES-003): This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.
Any changes or modifications to the display not expressly approved by Planar could void the user's authority to operate this equipment.

Other Certifications: CE